COMMODITY ORDER ISSUING AND ACCEPTING METHOD, SYSTEM THEREOF, AND COMMODITY ORDER ACCEPTING APPARATUS

Background of the Invention

Field of the Invention:

The present invention relates to a commodity order issuing and accepting method, a system thereof, and a commodity order accepting apparatus, and in particular, to those using the Internet.

Description of the Prior Art:

As the Internet is becoming common, transactions using the Internet are being performed using a commodity order issuing and accepting system.

However, in a conventional commodity order issuing and accepting system, when an order issuer inputs a commodity name and its quantity, the price is automatically determined. Thus, the order accepter side cannot effectively use the commodity order issuing and accepting system to facilitate the cash flow of the order accepter side.

Summary of the Invention

The present invention is made from the above-described point of view. An object of the present invention is to provide a commodity order issuing and accepting method, a system thereof, and a commodity order accepting apparatus thereof that facilitate the cash flow on the order accepter side.

Another object of the present invention is to provide a commodity

order issuing and accepting method, a system thereof, and a commodity order accepting apparatus thereof that allow the order accepter side to prompt the order issuer side to designate an early payment date so as to facilitate the cash flow on the order accepter side.

5   According to the present invention, there is provided a commodity order issuing and accepting method, comprising: a step that an order issuer side requests a first electronic document having first input fields for order issuer information and for commodity order issuance information except for an order issuer's payment date to an order accepter side; a step that the

10   order accepter side transmits the first electronic document to the order issuer side; a step that the order issuer side inputs the order issuer information and the commodity order issuance information except for the order issuer's payment date to the first input fields; a step that the order issuer side transmits the order issuer information and the commodity order

15   issuance information except for the order issuer's payment date to the order accepter side; a step that the order accepter side retrieves a transaction condition corresponding to the commodity order issuance information except for the order issuer's payment date; a step that the order accepter side transmits a second electronic document on which the transaction condition is described and which has a second input field for the order issuer's

20   is described and which has a second input field for the order issuer's payment date to the order issuer side; a step that the order issuer side inputs the order issuer's payment date to the second input field; and a step

2

that the order issuer side transmits the order issuer's payment date to the order accepter side.

The commodity order issuing and accepting method may further comprises: a step that the order accepter side calculates a reduced price corresponding to the transaction condition and the order issuer's payment date.

The commodity order issuing and accepting method may further comprises: a step that the order accepter side transmits a third electronic document on which the reduced price is described and which has means for inputting an authentication to the order issuer side; a step that the order issuer side activates the means for inputting the authentication; and a step that the order issuer side transmits information representing that the means for inputting the authentication has been activated to the order accepter side.

These and other objects, features and advantages of the present invention will become more apparent in light of the following detailed description of the best mode embodiment thereof, as illustrated in the accompanying drawings.

Brief Description of Drawings

Fig. 1 is a schematic diagram showing the structure of a commodity order issuing and accepting system according to an embodiment of the present invention;

Fig. 2 is a sequence chart showing the operation of the commodity order issuing and accepting system according to the embodiment of the present invention;

Fig. 3 is a schematic diagram showing an HTML document A according to the embodiment of the present invention;

Fig. 4 is a schematic diagram showing an HTML document B according to the embodiment of the present invention; and

Fig. 5 is a schematic diagram showing an HTML document C according to the embodiment of the present invention.

<u>Description of Preferred Embodiment</u>

Next, with reference to the accompanying drawings, an embodiment of the present invention will be described.

First of all, the structure of the embodiment of the present invention will be described with reference to Fig. 1. The commodity order issuing and accepting system comprises an order issuer terminal unit 10 or 20 and a commodity order accepter unit 30 that are connected through the Internet 40.

The order issuer terminal unit 10 is connected to the Internet 40 through a modem 11. The order issuer terminal unit 20 is connected to the Internet 40 through a router 21. The commodity order accepter unit 30 is connected to the Internet 40 through a router 31.

The order issuer terminal unit 10 comprises a physical layer 101, a

data link layer 102, an IP layer 103, a TCP layer 104, and a WWW (World Wide Web) browser 105. Likewise, the order issuer terminal unit 20 comprises a physical layer 201, a data link layer 202, an IP layer 203, a TCP layer 204, and a WWW browser 205.

The commodity order accepter unit 30 comprises a physical layer 301, a data link layer 302, an IP layer 303, a TCP layer 304, a WWW server 305, a CGI (Common Gateway Interface) 306, a database 307, an outputting means 308, and a record medium 309. The outputting means 308 is for example a printer, a display, or the like. The record medium 309 is for example a hard drive, a magneto-optical disc, or the like. Although the database 307 is stored in the record medium 309, the database 307 is separated from the record medium 309 in Fig. 1 for explanation.

The WWW browser 105 or 205 communicates with the WWW server 305 with the HTTP (Hyper Text Transfer Protocol) through the physical layer, the data link layer, the IP layer, and the TCP layer.

Next, with reference to Figs. 2 to 5, the operation of the embodiment will be described. With reference to Fig. 2, when the URL of HTML document A (401) is directly input to the WWW browser 105 (or 205) or a link to HTML document A (401) is activated, WWW browser 105 (or 205) requests the WWW server 305 for the HTML document A (401) (at step A1).

With reference to Fig. 3, described in the HTML document A (401) is a form A (402). Described in the form A (402) are: order issuer information

input fields 403 to 406, which include an order issuer's name, the order issuer's address, the order issuer's telephone number, and the order issuer's e-mail address; commodity order issuance information input fields 407 to 409, which include an order issuance commodity name, an order issuance commodity quantity, and a payment method and which does not include an order issuer's payment date; a submit button 410 named "TRANSMIT"; and a reset button 411 named "CANCEL". In the example, the input fields 403 to 406 and 408 are text boxes. The input field 407 is a drop-down list. The input field 409 is a set of radio buttons.

When the WWW server 305 receives a transmission request for the HTML document A at step A1, the WWW server 305 transmits the HTML document A (401) to the WWW browser 105 (or 205) (at step A2).

When the WWW browser 105 (or 205) receives the HTML document A (401), the order issuer inputs the order issuer information and the commodity order issuance information except for the order issuer's payment date to the input fields 403 to 409 of the form A (402) of the HTML document A (401) (at step A3). When the submit button 410 is pressed, the order issuer information and the commodity order issuance information except for the order issuer's payment date that have been input to the input fields 403 to 409 of the form A (402) and a start request for a CGI program 1 are submitted from the WWW browser 105 (or 205) to the WWW server 305 (at step A4).

If the reset button 411 is pressed, the contents in the input fields are reset.

When the form A is submitted to the WWW server 305, the WWW server 305 starts the CGI program 1 (at step A5).

The CGI program 1 causes the database 307 to be queried for the ordered commodity using SQL (Structured English Query Language) (as query 1) (at step A6). As a result, the delivery date of the ordered commodity, the regular price thereof, and the maximum discount rate thereof are obtained as data 1 (at step A7). Thereafter, the CGI program 1 causes the database 307 to be queried using the SQL (at step A8). As a result, the due payment date corresponding to the delivery date of the ordered commodity is obtained as data 2 (at step A9). Thereafter, the CGI program 1 sends an HTML document (501) shown in Fig. 4 to the WWW server 305 (at step A10).

With reference to Fig. 4, there is described in the HTML document (501) a form B (502). In addition, there are described in the HTML document (501): order issuer information, which includes the order issuer's name 503, the order issuer's address 504, the order issuer's telephone number 505, and the order issuer's e-mail address 506; commodity order issuance information, which includes the order issuance commodity name 507, the order issuance commodity quantity 508, and the payment method 509 and which does not include an order issuer's payment date; the results

7

of queries 1 and 2, which include the order issuance commodity delivery date 510, the regular price 511, the maximum discount rate 512, and the due payment date 513; a reduced price calculation formula 514; and link characters 518 named "RETURN". When the link characters 518 are clicked, the HTML document A (401) returns. Described in the form B (502) are an "order issuer's payment date" input field 515 as a text box, a submit button 516 named "TRANSMIT", and a reset button 517 named "cancel".

When the WWW browser 105 (or 205) receives the HTML document (501), the order issuer checks for the contents of the HTML document (501) including the reduced price calculation formula and then inputs the order issuer's payment date in the input field 515 (at step A12). Thereafter, when the submit button 516 is pressed, information that represents the order issuer's payment date that has been input in the input field 515 and a start request for a CGI program 2 are submitted from the WWW browser 105 (or 205) to the WWW server 305 (at step A13).

When the WWW server 305 receives the information that represents the order issuer's payment date and the start request of the CGI program 2, the WWW server 305 starts the CGI program 2 (at step A14).

The CGI program 2 calculates the reduced price using the reduced price calculation formula 514 substituted with the values of the regular price of the commodity, the maximum discount rate, the delivery date, the

8

order issuer's payment date, and the due payment date (at step A15), and then sends an HTML document C (601) shown in Fig. 5 to the WWW server 305.

With reference to Fig. 5, there is described in the HTML document C (601) a form C (602). In addition, there are described in the HTML document C (601): order issuer information, which includes the order issuer's name 603, the order issuer's address 604, the order issuer's telephone number 605, and the order issuer's e-mail address 606; commodity order issuance information, which includes the order issuance commodity name 607, the order issuance commodity quantity 608, the payment method 609, and the order issuer's payment date 614; results of queries 1 and 2, which includes the order issuance commodity delivery date 610, the regular price 611, the maximum discount rate 612, and the due payment date 613; the reduced price 615; and link characters 617. If the link characters 617 are clicked, the HTML document (501) returns. Described in the form C (602) is an authentication button 616 named "AUTHENTICATE".

After the WWW browser 105 (or 205) receives the HTML document C (601), when the order issuer checks for the content of the order issuance commodity and then presses the authentication button 616, a start request for a CGI program 3 is submitted from the WWW browser 105 (or 205) to the WWW server 305.

If the order issuer wants to change the content of the order, he or she clicks the link characters 617 so as to return from the HTML document C (601) to the HTML document (501). Likewise, if the order issuer clicks the link characters 518 on the HTML document (501), the HTML document A (401) returns.

When the WWW server 305 receives the form C at step A18, the WWW server 305 starts the CGI program 3 (at step A19).

The CGI program 3 causes all data described in the HTML document C (601) to be output to the outputting means 308 or recorded to the record medium 309 (at step A20).

There may be described in the form B (502) the order issuer's name, the order issuer's address, the order issuer's telephone number, the order issuer's e-mail address, the commodity name, the commodity quantity, the payment method, the delivery date, the regular price, the maximum discount rate, and the due payment using objects of "TYPE = hidden". In this case, these data are submitted along with an order issuer's payment date from the WWW browser 105 (or 205) to the WWW server 305. Likewise, there may described in the form C (503) the order issuer's name, the order issuer's address, the order issuer's telephone number, the order issuer's e-mail address, the commodity name, the commodity quantity, the payment method, the delivery date, the regular price, the maximum discount rate, the due payment date, the order issuer's payment date, and

the reduced price using objects of "TYPE = hidden".   In this case, these

data are submitted from the WWW browser 105 (or 205) to the WWW server

305 (at step A18).   In the above case, the CGI program 2 obtains all the

items input by the issuer and retrieved from database 307 at the concerned

5 time, and the CGI program 3 obtains all the items input by the issuer and

retrieved from database 307 at the concerned time and the reduced price.

Alternatively, CGI Side Includes, Netscape Persistence Cookies, or Magic

Cookies may be used instead of the above-described method.

According to the embodiment, the reduced price was calculated by the

10 formula:

Reduced price = (1 - (due payment date - order issuer's payment date)

/ (due payment date - delivery date) x maximum discount rate) x regular

price

Instead, the following formula may be used.

15 Reduced price = (1 - ((due payment date - order issuer's payment date)

/ (due payment date - delivery date))^2 x maximum discount rate) x regular

price

As was described above, according to the present invention, after the

order issuer knows that the reduced price varies depending on the order

20 issuer's payment date, the order issuer designates the order issuer's

payment date.   Thus, the order issuer is prompted to designate an early

payment date so as to facilitate the cash flow on the order acceptor side.

11

Although the present invention has been shown and described with respect to the best mode embodiment thereof, it should be understood by those skilled in the art that the foregoing and various other changes, omissions, and additions in the form and detail thereof may be made therein

5   without departing from the spirit and scope of the present invention.